

- 1 -

SEQUENCE LISTING

<110> AGT BIOSCIENCES LIMITED

Gregory, Royce, COLLIER (US Only)

Kenneth, Russell, WALDER (US Only)

James, Leonard, TREVASKIS (US Only)

Janine, Susan, McMILLAN (US Only)

Lyndal, Jane, BAYLES (US Only)

<120> Methods of Treatment and Prophylaxis

<130> 12581190/EJH

<150> US 60/553,823

<151> 2004-03-16

<160> 67

<170> PatentIn version 3.1

<210> 1

<211> 6317

<212> DNA

<213> Psammomys obesus

<400> 1

cagactcctt ggaaattaag gaatgcaatt ctgccacat gatggaagga ctgaaaaaac 60

gtacaaggaa ggcctttgga atacggaaga aagaaaaaga cactgactct acaggctcac 120

cagatcgaga tggaatgcag ccagcccac acgagctccc ctaccatagc aaagcagagt 180

gtgcccgaga aggagggaac aaagcttcga agaaaagcaa tggggcacca aatggatatt 240

atgcggaaat tgattgggaa agatataact cacctgagct ggatgaagaa ggttacagca 300

tcagacctga ggaaccaggc tctaccaaag gaaagcactt ttattcttca agtgaatcog 360

aagaggagga agaatcgac aagaagttca atatcaagat taaacccttg cagtccaagg 420

- 2 -

acatccttaa gaatgctgca acagtagacg agctgaaggc ttccataggc aacattgcac 480
tttccccttc gcctgtgagg aaaagtccga ggcgcagccc gggtgcaatt aaaaggaact 540
tatccagtga agaagtcgca agaccagggc gttccacccc aactccagaa cttacaagca 600
agaagcctct ggacgacaact ctggcccttg ctcccctctt tggcccaccg ttagaatctg 660
cttttgatgg acacaagacg gaagttcttt tagatcagcc tgagatatgg ggttcaggcc 720
aaccagttaa cccaagcatg gagtcaccaa agctagcaag accttttccc actggaaccc 780
ctccacctct gcctccaaaa actgtaccag ccaccccgcc tcggacaggc tccccttaa 840
cagtggcgac aggaaatgac caggcagcca cagaggccaa aattgagaaa ctaccatcca 900
tcagtgcact ggacagcatt tttggccccg tgttgtcccc caagtctgtt gctgttaata 960
ctgaggagac gtgggtccat ttctotgatg catccccgga acatgttact ccagagttga 1020
ctccaaggga aaaggtggtg accccaccag ctgcatcaga catcccagct gactccccaa 1080
ctccaggccc gcctggcccc ccaggctcgg cagggtcccc agggcctcct ggtcctcgca 1140
atgtaccatc tccgctcaat ttagaagaag tccagaagaa agtcgctgag cagaccttca 1200
ttaaagatga ttacttagaa acactctcat ctctaaaga gtgtgggttg ggacagagag 1260
caactccacc tccccacca ccacccacct acaggactgt ggtttcgtcc cccggacctg 1320
gctcgggcag tggtagggg accgccagtg gtgcatcgtc ccctgctcgg ccagccaccc 1380
ccttagttcc ttgcagctgc tccactccgc ctccacctcc tcccggcct ccatccggc 1440
caaagctacc tccaggaaag cctggagttg gagacgtgtc cagacctttt agccccacca 1500
tacactcctc cagccctcct ccaatagcac ccttagcccg ggctgaaagc acttcttcaa 1560

- 3 -

tatcatcaac caattccctg agcgcagcca ccaactccac agttgagaat gaacagsctt 1620

ccctcgtttg gtttgacaga ggaaagtttt atttgacttt tgaaggttct tccaggggac 1680

ccagtcctct aactatgggg gccaggaca ccctcccgtt tgcagcagca ttcacagaaa 1740

ctgtcaatgc ctacttcaaa ggagcagatc caagcaaagc cattgttaag atcacgggag 1800

aaatggtggt gtcctttcct gctggcatca ccagacactt tgccaacaac ccatccccag 1860

ctgctctgac ttttcgagtg ataaattcca gcaggttaga gcacgtcctg ccgaaccccc 1920

agctcctctg ctgcgataac acacaaaatg atgccaatc caaggaattc tgggtaaaca 1980

tgccaaattt gatgaccac ctgaagaagg tctctgaaca aaaaccccag gctacatatt 2040

acaatgtgga catgctcaag tatcagggtg cagcccaggg cattcagtcc acacctctga 2100

acttggcggg gaactggcgc tgtgagcctt ccagcactga cctgcgcata gattataagt 2160

acaacacgga tgccatgtcc accgcagtgg cccttaacaa cgtgcagttc ctgggtcccca 2220

ttgatggagg agtgaccaag ctccaggctg tccttcctcc agcagtctgg aatgctgaac 2280

aacaaagaat attatggaag attcctgata tctcccagaa gtcagaaaat ggaggcgtag 2340

gttctttact ggcaagattt caattagccg aaggccaag caaaccttcc ccaactggtcg 2400

tgcagttcac gagtgaaggg agcactctgt ctggctgcga cattgagctt gtcggagcag 2460

ggtacggggt ttcactcatc aagaagaggt ttgctgcagg aaaatacttg gccgataact 2520

aataaaatgt catgcaagga ttttgaagat ccatgtcctg gagaactggt gtctgagaga 2580

catattttta tctggtttga ggaaaacaaa ccaaccgatg tctgtacgtg.ggctctgtca 2640

gctggaagggt cccggctttc agccgtgatt toccacaccc agtacaagga ggatcagttc 2700

tacagtactt acttctaggt gtactattgt taatggtttt aaaatgtaat tattgtattt 2760

- 4 -

gtaaactgta ccttcattcc agtaaggcag ttagacacct gagtttttagc ttttttttcc 2820
attcctgaaa cggatgtaat ttaaactgcg gtatgtaaat ttaatagtag tactgtcgaa 2880
tggcacaatg cttacagaga tacagtgcac tttgtcaata tataaaattt aaatataatg 2940
ttgatagtta ccataaaggg ggtgccacac atcaagaacc ttaaatggaa ccagaaacaa 3000
gcaagcaaac aaacaaacaa acaaacaaaa ccttactttt cttcactcct tattacattt 3060
tcctctagag ctaaagaaac ttctagcttc ggttttagtgg gttaaattca gaaactattt 3120
cagaaaaaaaa aaaaaattct gaagttacag catattcaaa gagaagcatt aattaccact 3180
tttttaaaag cttttttttc aaaccgcaa tttcataaaa atgcaaactg tgtaaacagg 3240
gcctcttatt ttataactt gtgtaaaaag ggaaaatcaa ttcattttta aagtttaagt 3300
agtattaaat tatatccaag agtgaagagg atgttgaaat cttacctgac cccatgcccc 3360
ttctttgcag ttagcaaat gttgagattg ctaaattcatc agattaaagc caacttgatt 3420
tttaaagttt caagactttc tgaagctgaa ctggttaaaa cttttgcaca attgcttgga 3480
acggaggggg aggggcctct ctggtccagc acaggtaacct tgtttcttcc ctactcacia 3540
gaatcaaac aatgaaagtc aagaaccaca gaggggggaa attagttccc tgttcagtcc 3600
aaaaggagaa ctttaaactt atcattttacg tctttgggga aggaagaaat aagctttata 3660
agtgaatcc tattcacctt gttgtcctat gaatgttttc ggggtgactt taagattcat 3720
tgtatacatg tgcgagtctc tgctattctt ggggagttga aagcagagcc aggccagtgg 3780
ccttgaagtt cagtaaagtc cacagttctg gggcaaagggt aggcattgagg gttctgcccc 3840
tcagcacagg aatcagagca gtgtcttgta aggtctaaag attaagtctt ccagtaagcc 3900

- 5 -

acaagttatt ttgtaacaga gttggggagt tttggcactc gctgctgact ttcattttgt 3960

atccactcaa atggagtctt caactctttt caactttaga atcaaattaa tttttttttt 4020

tttttttttt tttttacaca aggtttactc tgtgtaactg tcctggatgt tctggaactc 4080

tttttgtaga ccaggctggc ctcgaactca gagagatcca cctgcctgtg ctccccaagt 4140

gctgggatta aaggcgtgtg ccaccatgcc tggcttagat taaatttttt aagtcttact 4200

tcaccagtga gattgtgatt ggcagttggt tcgagagagc tttgtagctt aatctatggt 4260

ctcttcaatc aatgcttgct accaaaagaa tgtccaaaat gatctatttt tcctgggaac 4320

aattcatcta tttaaataagg ctcttgcta gttcccaaaa gcagcctgtc tttgaagggt 4380

tttttgaaca aaataatttt ttcacaaaaa gtttggtttt gaaatcaaaa tagagaaata 4440

aatgtaaat tttaaatacta atggaacatg aggaaatgaa aaaacttaag ccaatggaga 4500

gtaaaagcag aaaaaaatga aacttaccta gaatgtgatt atattatggt tttaagtagt 4560

caattcatgg aaaaatattg aatattaaca caaagcatat taaaaatatg taaatattac 4620

tgtttctcat gtctttctct ttatatctta tttatatag ttttagaatg aattggcat 4680

taaatacagt gtttctttcc aaagaataat tttgttgata ttgtaaaaat gtaattaaag 4740

atagagactt gaatagtctc taacattatc caaatgtttc taggaaccaa attcaaagct 4800

gtgaagaaag cttgcaatcc ctgaattggc ttttgtgaaa tggaatgacg gtgggtaatc 4860

tcaaaattca gacttgaata gtcagagctg aagtggggaa tgggtggttc cttctggttc 4920

agaaaatagg tcaaataaca gcatttgctc gcatcaggga tggagatggt ggtgatgttt 4980

ggttttactc tcgcaggctt tcgtctcctg ttgaagggtg atctgtagcc cagtgggata 5040

agagttcatg ttctgagatg tggctcctaga caaggcaggc aaggtttcag tcatcaatac 5100

- 6 -

ctatcaggtc aggttcctt ttgtctatac aaaatgggtt agtcatagc cagatggttt 5160

gcaggacagt gagctaaatt aggacaagat tctggttagc caaagagctg tttcctaagc 5220

actctgattt ttttttaaag ctgatagaaa gtgtaaagt tctattttga cgacatggaa 5280

agtatgtttt cctcttcaaa taaatccctt atttttatga aattttcaaa aataaattct 5340

tgtttaaaat agtctgaatg ttatcatagt tggaacttgg caattactaa tttgaaattc 5400

tatgagatgt atctccagct aaaatggcaa ttccctgtat gctatctggg gctcagttta 5460

cctctaagga agactgtcag agtgcaaatg gttttgagt acgggaaagt caaagggcaa 5520

atgtttgtgc tttttcttt ttctgtctta tataacttctt cttggtctca gaatgcaaag 5580

tatcagagcc atagttacac acatttcac ttttaacgct tttttgaag gaagcagatc 5640

cacttttgcc ccgccactca tgctgtctgt gcagactcag acgagtcctt gccctcttca 5700

cgcttttggg gtgagagggg agccatatgt aagtagtttt caagcttttc ttaatgggac 5760

ttttcttttt ctaataaaat catgcctgga atcctgtaaa gattgttgcc tggctgtgaa 5820

ggggcttctc cagatcctga aatatagcat cacaatacgt aaatgactcc cgatggatct 5880

cccagctctg aagacttgct cttctacttc acatgtgtag ccacgacgat cagctggcac 5940

acagtacaat tagctgtgta gtgagtgtc cccagctatc agtcatgaaa catatcactt 6000

tgctcaacct gtttttaaaa aagctccaaa atggtaaaaa tgcttttcag tctttgtttt 6060

ccaataatg gtattgaggc ctaagctgat taacttcccc caaagtggta ccacagctgg 6120

taacgacccc aatgatcctg aaaaaaatgg aatgagtacc ttgctgtttc rtttagttya 6180

ttttgggaaa ataatccatt tgaatgtcaa gataaaaagg caccaggaaa agtcctcatt 6240

- 7 -

ggaaggatta aagatgagcc tggtaagatg ttaagatgta agatgttaag atgtgttact 6300

gtaaaaaaaaa aaagctt 6317

<210> 2

<211> 827

<212> PRT

<213> Psammomys obesus

<400> 2

Met Met Glu Gly Leu Lys Lys Arg Thr Arg Lys Ala Phe Gly Ile Arg
1 5 10 15

Lys Lys Glu Lys Asp Thr Asp Ser Thr Gly Ser Pro Asp Arg Asp Gly
20 25 30

Met Gln Pro Ser Pro His Glu Leu Pro Tyr His Ser Lys Ala Glu Cys
35 40 45

Ala Arg Glu Gly Gly Asn Lys Ala Ser Lys Lys Ser Asn Gly Ala Pro
50 55 60

Asn Gly Phe Tyr Ala Glu Ile Asp Trp Glu Arg Tyr Asn Ser Pro Glu
65 70 75 80

Leu Asp Glu Glu Gly Tyr Ser Ile Arg Pro Glu Glu Pro Gly Ser Thr
85 90 95

Lys Gly Lys His Phe Tyr Ser Ser Ser Glu Ser Glu Glu Glu Glu Glu
100 105 110

- 8 -

Ser His Lys Lys Phe Asn Ile Lys Ile Lys Pro Leu Gln Ser Lys Asp
115 120 125

Ile Leu Lys Asn Ala Ala Thr Val Asp Glu Leu Lys Ala Ser Ile Gly
130 135 140

Asn Ile Ala Leu Ser Pro Ser Pro Val Arg Lys Ser Pro Arg Arg Ser
145 150 155 160

Pro Gly Ala Ile Lys Arg Asn Leu Ser Ser Glu Glu Val Ala Arg Pro
165 170 175

Arg Arg Ser Thr Pro Thr Pro Glu Leu Thr Ser Lys Lys Pro Leu Asp
180 185 190

Asp Thr Leu Ala Leu Ala Pro Leu Phe Gly Pro Pro Leu Glu Ser Ala
195 200 205

Phe Asp Gly His Lys Thr Glu Val Leu Leu Asp Gln Pro Glu Ile Trp
210 215 220

Gly Ser Gly Gln Pro Val Asn Pro Ser Met Glu Ser Pro Lys Leu Ala
225 230 235 240

Arg Pro Phe Pro Thr Gly Thr Pro Pro Pro Leu Pro Pro Lys Thr Val
245 250 255

Pro Ala Thr Pro Pro Arg Thr Gly Ser Pro Leu Thr Val Ala Thr Gly
260 265 270

- 9 -

Asn Asp Gln Ala Ala Thr Glu Ala Lys Ile Glu Lys Leu Pro Ser Ile
275 280 285

Ser Asp Leu Asp Ser Ile Phe Gly Pro Val Leu Ser Pro Lys Ser Val
290 295 300

Ala Val Asn Thr Glu Glu Thr Trp Val His Phe Ser Asp Ala Ser Pro
305 310 315 320

Glu His Val Thr Pro Glu Leu Thr Pro Arg Glu Lys Val Val Thr Pro
325 330 335

Pro Ala Ala Ser Asp Ile Pro Ala Asp Ser Pro Thr Pro Gly Pro Pro
340 345 350

Gly Pro Pro Gly Ser Ala Gly Pro Pro Gly Pro Pro Gly Pro Arg Asn
355 360 365

Val Pro Ser Pro Leu Asn Leu Glu Glu Val Gln Lys Lys Val Ala Glu
370 375 380

Gln Thr Phe Ile Lys Asp Asp Tyr Leu Glu Thr Leu Ser Ser Pro Lys
385 390 395 400

Glu Cys Gly Leu Gly Gln Arg Ala Thr Pro Pro Pro Pro Pro Pro Pro
405 410 415

- 10 -

Thr Tyr Arg Thr Val Val Ser Ser Pro Gly Pro Gly Ser Gly Ser Gly
420 425 430

Thr Gly Thr Ala Ser Gly Ala Ser Ser Pro Ala Arg Pro Ala Thr Pro
435 440 445

Leu Val Pro Cys Ser Cys Ser Thr Pro Pro Pro Pro Pro Pro Arg Pro
450 455 460

Pro Ser Arg Pro Lys Leu Pro Pro Gly Lys Pro Gly Val Gly Asp Val
465 470 475 480

Ser Arg Pro Phe Ser Pro Pro Ile His Ser Ser Ser Pro Pro Pro Ile
485 490 495

Ala Pro Leu Ala Arg Ala Glu Ser Thr Ser Ser Ile Ser Ser Thr Asn
500 505 510

Ser Leu Ser Ala Ala Thr Thr Pro Thr Val Glu Asn Glu Gln Ala Ser
515 520 525

Leu Val Trp Phe Asp Arg Gly Lys Phe Tyr Leu Thr Phe Glu Gly Ser
530 535 540

Ser Arg Gly Pro Ser Pro Leu Thr Met Gly Ala Gln Asp Thr Leu Pro
545 550 555 560

Val Ala Ala Ala Phe Thr Glu Thr Val Asn Ala Tyr Phe Lys Gly Ala
565 570 575

- 11 -

Asp Pro Ser Lys Cys Ile Val Lys Ile Thr Gly Glu Met Val Leu Ser
580 585 590

Phe Pro Ala Gly Ile Thr Arg His Phe Ala Asn Asn Pro Ser Pro Ala
595 600 605

Ala Leu Thr Phe Arg Val Ile Asn Ser Ser Arg Leu Glu His Val Leu
610 615 620

Pro Asn Pro Gln Leu Leu Cys Cys Asp Asn Thr Gln Asn Asp Ala Asn
625 630 635 640

Thr Lys Glu Phe Trp Val Asn Met Pro Asn Leu Met Thr His Leu Lys
645 650 655

Lys Val Ser Glu Gln Lys Pro Gln Ala Thr Tyr Tyr Asn Val Asp Met
660 665 670

Leu Lys Tyr Gln Val Ser Ala Gln Gly Ile Gln Ser Thr Pro Leu Asn
675 680 685

Leu Ala Val Asn Trp Arg Cys Glu Pro Ser Ser Thr Asp Leu Arg Ile
690 695 700

Asp Tyr Lys Tyr Asn Thr Asp Ala Met Ser Thr Ala Val Ala Leu Asn
705 710 715 720

Asn Val Gln Phe Leu Val Pro Ile Asp Gly Gly Val Thr Lys Leu Gln
725 730 735

- 12 -

Ala Val Leu Pro Pro Ala Val Trp Asn Ala Glu Gln Gln Arg Ile Leu
 740 745 750

Trp Lys Ile Pro Asp Ile Ser Gln Lys Ser Glu Asn Gly Gly Val Gly
 755 760 765

Ser Leu Leu Ala Arg Phe Gln Leu Ala Glu Gly Pro Ser Lys Pro Ser
 770 775 780

Pro Leu Val Val Gln Phe Thr Ser Glu Gly Ser Thr Leu Ser Gly Cys
 785 790 795 800

Asp Ile Glu Leu Val Gly Ala Gly Tyr Gly Phe Ser Leu Ile Lys Lys
 805 810 815

Arg Phe Ala Ala Gly Lys Tyr Leu Ala Asp Asn
 820 825

<210> 3
 <211> 499
 <212> PRT
 <213> Human

<400> 3

Met Met Glu Gly Leu Lys Lys Arg Thr Arg Lys Ala Phe Gly Ile Arg
 1 5 10 15

Lys Lys Glu Lys Asp Thr Asp Ser Thr Gly Ser Pro Asp Arg Asp Gly
 20 25 30

- 13 -

Met Gln Pro Ser Pro His Glu Leu Pro Tyr His Ser Lys Ala Glu Cys
35 40 45

Ala Arg Glu Gly Gly Lys Lys Ala Ser Lys Lys Ser Asn Gly Ala Pro
50 55 60

Asn Gly Phe Tyr Ala Glu Ile Asp Trp Glu Arg Tyr Asn Ser Pro Glu
65 70 75 80

Leu Asp Glu Glu Gly Tyr Ser Ile Arg Pro Glu Glu Pro Gly Ser Thr
85 90 95

Lys Gly Lys His Phe Tyr Ser Ser Ser Glu Ser Glu Glu Glu Glu Glu
100 105 110

Ser His Lys Lys Phe Asn Ile Lys Ile Lys Pro Leu Gln Ser Lys Asp
115 120 125

Ile Leu Lys Asn Ala Ala Thr Val Asp Glu Leu Lys Ala Ser Ile Gly
130 135 140

Asn Ile Ala Leu Ser Pro Ser Pro Val Arg Lys Ser Pro Arg Arg Ser
145 150 155 160

Pro Gly Ala Ile Lys Arg Asn Leu Ser Ser Glu Glu Val Ala Arg Pro
165 170 175

- 14 -

Arg Arg Ser Thr Pro Thr Pro Glu Leu Thr Ser Lys Lys Pro Leu Asp
180 185 190

Asp Thr Leu Ala Leu Ala Pro Leu Phe Gly Pro Pro Leu Glu Ser Ala
195 200 205

Phe Asp Gly His Lys Thr Glu Val Leu Leu Asp Gln Pro Glu Ile Trp
210 215 220

Gly Ser Gly Gln Pro Val Asn Pro Ser Met Glu Ser Pro Lys Leu Ala
225 230 235 240

Arg Pro Phe Pro Thr Gly Thr Pro Pro Pro Leu Pro Pro Lys Thr Val
245 250 255

Pro Ala Thr Pro Pro Arg Thr Gly Ser Pro Leu Thr Val Ala Thr Gly
260 265 270

Asn Asp Gln Ala Ala Thr Glu Ala Lys Ile Glu Lys Pro Pro Ser Ile
275 280 285

Ser Asp Leu Asp Ser Ile Phe Gly Pro Val Leu Ser Pro Lys Ser Val
290 295 300

Ala Val Asn Thr Glu Glu Thr Trp Val His Phe Ser Asp Ala Ser Pro
305 310 315 320

Glu His Val Thr Pro Glu Leu Thr Pro Arg Glu Lys Val Val Thr Pro
325 330 335

- 15 -

Pro Ala Ala Ser Asp Ile Pro Ala Asp Ser Pro Thr Pro Gly Pro Pro
340 345 350

Gly Pro Pro Gly Ser Ala Gly Pro Pro Gly Pro Pro Gly Pro Arg Asn
355 360 365

Val Pro Ser Pro Leu Asn Leu Glu Glu Val Gln Lys Lys Val Ala Glu
370 375 380

Gln Thr Phe Ile Lys Asp Asp Tyr Leu Glu Thr Leu Ser Ser Pro Lys
385 390 395 400

Glu Cys Gly Leu Gly Gln Arg Glu Thr Pro Pro Pro Pro Pro Pro Pro
405 410 415

Thr Tyr Arg Thr Val Val Ser Ser Pro Gly Pro Gly Ser Gly Ser Gly
420 425 430

Thr Gly Thr Ala Ser Gly Ala Ser Ser Pro Ala Arg Pro Ala Thr Pro
435 440 445

Leu Val Pro Cys Ser Cys Ser Thr Pro Pro Pro Pro Pro Pro Arg Pro
450 455 460

Pro Ser Arg Pro Lys Leu Pro Pro Gly Lys Pro Gly Val Gly Asp Val
465 470 475 480

Ser Arg Pro Phe Ser Pro Pro Ile His Ser Ser Ser Pro Pro Pro Ile
485 490 495

- 16 -

Ala Pro Leu

<210> 4

<211> 259

<212> PRT

<213> Human

<400> 4

Arg Pro Phe Pro Thr Gly Thr Pro Pro Pro Leu Pro Pro Lys Thr Val
1 5 10 15

Pro Ala Thr Pro Pro Arg Thr Gly Ser Pro Leu Thr Val Ala Thr Gly
20 25 30

Asn Asp Gln Ala Ala Thr Glu Ala Lys Ile Glu Lys Pro Pro Ser Ile
35 40 45

Ser Asp Leu Asp Ser Ile Phe Gly Pro Val Leu Ser Pro Lys Ser Val
50 55 60

Ala Val Asn Thr Glu Glu Thr Trp Val His Phe Ser Asp Ala Ser Pro
65 70 75 80

Glu His Val Thr Pro Glu Leu Thr Pro Arg Glu Lys Val Val Thr Pro
85 90 95

Pro Ala Ala Ser Asp Ile Pro Ala Asp Ser Pro Thr Pro Gly Pro Pro
100 105 110

- 17 -

Gly Pro Pro Gly Ser Ala Gly Pro Pro Gly Pro Pro Gly Pro Arg Asn
115 120 125

Val Pro Ser Pro Leu Asn Leu Glu Glu Val Gln Lys Lys Val Ala Glu
130 135 140

Gln Thr Phe Ile Lys Asp Asp Tyr Leu Glu Thr Leu Ser Ser Pro Lys
145 150 155 160

Glu Cys Gly Leu Gly Gln Arg Ala Thr Pro Pro Pro Pro Pro Pro Pro
165 170 175

Thr Tyr Arg Thr Val Val Ser Ser Pro Gly Pro Gly Ser Gly Ser Gly
180 185 190

Thr Gly Thr Ala Ser Gly Ala Ser Ser Pro Ala Arg Pro Ala Thr Pro
195 200 205

Leu Val Pro Cys Ser Cys Ser Thr Pro Pro Pro Pro Pro Pro Arg Pro
210 215 220

Pro Ser Arg Pro Lys Leu Pro Pro Gly Lys Pro Gly Val Gly Asp Val
225 230 235 240

Ser Arg Pro Phe Ser Pro Pro Ile His Ser Ser Ser Pro Pro Pro Ile
245 250 255

- 18 -

Ala Pro Leu

<210> 5

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP ID 1373910 Forward primer

<400> 5

gttggttctat cactggcagt c

21

<210> 6

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP ID 1373910 Reverse primer

<400> 6

gagcattgca aagaggatgg g

21

<210> 7

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP ID 1373910 SNP sequence

- 19 -

<220>

<221> misc_feature

<222> (21)..(21)

<223> "n" is either "a" or "g"

<400> 7

caaagaggat gggaggggtt ntattaggtc ctgtgtg

37

<210> 8

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP ID 1445579 Forward primer

<400> 8

gcaagcaaac tgcagcatTT c

21

<210> 9

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP ID 1445579 Reverse primer

<400> 9

gatgtgcagc cagtgtatgt g

21

- 20 -

<210> 10
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP ID 1445579 SNP sequence

<220>
<221> misc_feature
<222> (21)..(21)
<223> "n" is either "g" or "t"

<400> 10
ttctagaacc tgggtgcaa ngttttgcaa gcagaaatgc t

41

<210> 11
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1900105 Forward primer

<400> 11
gttcttccct ctgggtctat c

21

<210> 12
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1900105 Reverse primer

- 21 -

<400> 12
gaataaggaa aggcctccag c 21

<210> 13
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1900105 SNP sequence

<220>
<221> misc_feature
<222> (23)..(23)
<223> "n" is either "c" or "g"

<400> 13
tgggtctatc tctgctotg tgnctttacc tctggtcaca gg 42

<210> 14
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 2146904 Forward primer

<400> 14
gaactgtcat gcaacctgct g 21

- 22 -

<210> 15
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 2146904 Reverse primer

<400> 15
gctcagatgc accctgtata t

21

<210> 16
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 2146904 SNP sequence

<220>
<221> misc_feature
<222> (20)..(20)
<223> "n" is either "a" or "g"

<400> 16
tgtatatttta ctgttcacn tggaactogt gccactga

38

<210> 17
<211> 21
<212> DNA
<213> Artificial Sequence

- 23 -

<220>

<223> SNP 4143026 Forward primer

<400> 17

gcaaattagc ctgccagaga g

21

<210> 18

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4143026 Reverse primer

<400> 18

gtgaagtgag gacaggaaag g

21

<210> 19

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4143026 SNP sequence

<220>

<221> misc_feature

<222> (20)..(20)

<223> "n" is either "c" or "t"

<400> 19

gcaaaattca tgaatttgcg gctgcttggt aacaccaccc c

41

- 24 -

<210> 20
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 604737 Forward primer

<400> 20
ggtgccattc aacaatacta c

21

<210> 21
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 604737 Reverse primer

<400> 21
gggcagttag acacttgagt t

21

<210> 22
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 604737 SNP sequence

<220>
<221> misc_feature
<222> (23)..(23)
<223> "n" is either "c" or "t"

- 25 -

<400> 22
ttttaccatt cctgaaatgg atntaattta aactgtggta tgt 43

<210> 23
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 485521 Forward primer

<400> 23
ggtaaaaagg gaaagcaatt c 21

<210> 24
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 485521 Reverse primer

<400> 24
ggagaggggc aagtagttaa g 21

<210> 25
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 485521 SNP sequence

- 26 -

<220>

<221> misc_feature

<222> (19)..(19)

<223> "n" is either "a" or "g"

<400> 25

tcaagagtaa agaagatgnt gaagtcttaa ctacttgccc c

41

<210> 26

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1373909 Forward primer

<400> 26

gctcccatcc tctttgcaat g

21

<210> 27

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1373909 Reverse primer

<400> 27

gttctgctta gaaggcttgg g

21

- 27 -

<210> 28
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1373909 SNP sequence

<220>
<221> misc_feature
<222> (21)..(21)
<223> "n" is either "a" or "g"

<400> 28
gtgttcacgg agataacagc naatggtctt ccaggaattt a

41

<210> 29
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 4655650 Forward primer

<400> 29
gtgcaggcgt tttcagtttt g

21

<210> 30
<211> 21
<212> DNA
<213> Artificial Sequence

- 28 -

<220>

<223> SNP 4655650 Reverse primer

<400> 30

gcagacatta accccatgaa c

21

<210> 31

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4655650 SNP sequence

<220>

<221> misc_feature

<222> (24)..(24)

<223> "n" is either "c" or "t"

<400> 31

cgttttcagt tttgaagcat attnatagga ggctttaaatt ca

42

<210> 32

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 657808 Forward primer

<400> 32

gtaaaactct ccttctggat c

21

- 29 -

<210> 33
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 657808 Reverse primer

<400> 33
gaccacagc aatcaaacg c

21

<210> 34
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 657808 SNP sequence

<220>
<221> misc_feature
<222> (23)..(23)
<223> "n" is either "a" or "g"

<400> 34
aattttaggg aaaaaaagt ccnctgttta gatccagaag

40

<210> 35
<211> 21
<212> DNA
<213> Artificial Sequence

- 30 -

<220>

<223> SNP 1373911 Forward Primer

<400> 35

gccccatttc atttgccaa c

21

<210> 36

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1373911 Reverse primer

<400> 36

gtttggggat gcatctacaa g

21

<210> 37

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1373911 SNP sequence

<220>

<221> misc_feature

<222> (22)..(22)

<223> "n" is either "c" or "t"

<400> 37

tcttaaattt acttrgcctt angtttagat ccaacttgga t

41

- 31 -

<210> 38
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 2146905 Forward primer

<400> 38
gtctcatg cagccacaaa g

21

<210> 39
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 2146905 Reverse primer

<400> 39
gtgctcccca gaaaattggt c

21

<210> 40
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 2146905 SNP sequence

<220>
<221> misc_feature
<222> (22)..(22)
<223> "n" is either "a" or "c"

- 32 -

<400> 40

taattcattc atttgagaga cnctaaagga aggaaaattg

40

<210> 41

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4655643 Forward primer

<400> 41

gggggtgggta gttttaaattg tc

22

<210> 42

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4655643 Reverse primer

<400> 42

gactatttttc cgttactctc c

21

<210> 43

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4655643 SNP sequence

- 33 -

<220>

<221> misc_feature

<222> (20)..(20)

<223> "n" is either "a" or "c"

<400> 43

tacrtttttcc tataaactcn tcatgtggag agtaacggaa

40

<210> 44

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1338200 Forward primer

<400> 44

gatgaactgc agaggcagta c

21

<210> 45

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1338200 Reverse primer

<400> 45

gtttttccaaa tgaaaataca g

21

<210> 46

<211> 39

<212> DNA

<213> Artificial Sequence

- 34 -

<220>

<223> SNP 1338200 SNP sequence

<220>

<221> misc_feature

<222> (19)..(19)

<223> "n" is either "a" or "c"

<400> 46

tgaaaataca gagcgagana gcttttttta aaaaaaata

39

<210> 47

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 502690 Forward primer

<400> 47

gcccgaagaa cctcaggaaa t

21

<210> 48

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 502690 Reverse primer

<400> 48

gtacttttca gagcaaagca c

21

- 35 -

<210> 49
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 502690 SNP sequence

<220>
<221> misc_feature
<222> (22)..(22)
<223> "n" is either "a" or "t"

<400> 49
tttaaataat aaaaatgatg tntatatgtg tgctttgctc tg 42

<210> 50
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 3078564 Forward primer

<400> 50
ggattcagtg tattgacatg g 21

<210> 51
<211> 21
<212> DNA
<213> Artificial Sequence

- 36 -

<220>

<223> SNP 3078564 Reverse primer

<400> 51

gtgacaacac catttctccg g

21

<210> 52

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 3078564 SNP sequence

<220>

<221> misc_feature

<222> (23)..(23)

<223> "n" is either "a" or "c" or "g" or "t"

<400> 52

gtattgacat ggattttctc tcntttcctc tctgtgtttt

40

<210> 53

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1325267 Forward primer

<400> 53

gtgctgaatg acagtttgcc c

21

- 37 -

<210> 54
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1325267 Reverse primer

<400> 54
gatggagcag aagtcttcct g

21

<210> 55
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1325267 SNP sequence

<220>
<221> misc_feature
<222> (21)..(21)
<223> "n" is either "c" or "t"

<400> 55
gtgcagttaa aatatgctga ngcccctgca tggccagga

39

<210> 56
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1856319 Forward primer

- 38 -

<400> 56
gccaaacttcc ttttgtagag c 21

<210> 57
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1856319 Reverse primer

<400> 57
gttagatgtg gaaaacttgc c 21

<210> 58
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1856319 SNP sequence

<220>
<221> misc_feature
<222> (20)..(20)
<223> "n" is either "c" or "t"

<400> 58
aatcaagggg aaagaaaaan ttgaattgct ctacaaaag 39

- 39 -

<210> 59
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1325266 Forward primer

<400> 59
ggggtgtttt gtgtctggat g 21

<210> 60
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1325266 Reverse primer

<400> 60
gcaggaaga tgtcacatat c 21

<210> 61
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> SNP 1325266 SNP sequence

<220>
<221> misc_feature
<222> (21)..(21)
<223> "n" is either "a" or "g"

- 40 -

<400> 61

ggatgcctaa ggtgattcca ngggagggga tggaagata

39

<210> 62

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 3078564 SNP sequence

<220>

<221> misc_feature

<222> (24)..(24)

<223> "n" is either "a" or "c" or "g" or "t"

<400> 62

gtattgacat ggattttctc tcntttcct ctctgtgttt t

41

<210> 63

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> FIT-NP oligonucleotide

<400> 63

gtacagtcga ctatgatgga aggactgaaa aaacg

35

- 41 -

<210> 64
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> FIT-PR oligonucleotide

<400> 64
gtacagtcga ccagaccttt tcccactg

28

<210> 65
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 65
atagcggccg cggctaaggg tgctat

26

<210> 66
<211> 21
<212> DNA
<213> primer

<400> 66
tgaaggcttc cataggcaac a

21

- 42 -

<210> 67

<211> 18

<212> DNA

<213> primer

<400> 67

tggaacgcct gggctcttg

18